Please amend claims 1, 7 and 11 as set forth below.

Listing of Claims

Claim 1 (Currently amended): An optical channelizer system for dividing up a relatively wide bandwidth optical signal into a plurality of subchannels, the optical channelizer system comprising:

an optical local oscillator (LO) for providing a comb of LO optical frequencies;

an optical splitter for spatially dividing said comb of LO optical frequencies into a plurality of LO signals;

a device for receiving a source of an optical signal having a predetermined bandwidth and providing a plurality of replicated versions of the optical signal, each version being translated with respect to each other by a predetermined frequency;

an optical channelizer for receiving said replicated optical signals and said plurality of LO signals; and

a photo detector array disposed adjacent said optical channelizer for receiving the images of said replicated optical signals and said LO signals.

Claim 2 (Original): The optical channelizer system as recited in claim 1, wherein said optical channelizer is based upon a diffraction grating.

Claim 3 (Original): The optical channelizer system as recited in claim 1, wherein said optical channelizer is based upon an integrated optical array wave guide grating.

Claim 4 (Original): The optical channelizer system as recited in claim 1, further including an optical amplifier for amplifying said LO optical signals.

Claim 5 (Original): The optical channelizer system as recited in claim 4, wherein said optical splitter and optical amplifier is formed from a monolithic optical splitter/amplifier integrated circuit (MOSAIC).

Claim 6 (Original): The optical channelizer as recited in claim 1, wherein said device for providing a plurality of replicated optical signals is a Bragg cell.

Claim 7 (Currently amended): An optical channelizer system for dividing up a relatively wide bandwidth optical signal into a plurality of subchannels, the optical channelizer comprising~~;~~:

an optical local oscillator (LO) for providing a comb of LO optical frequencies defining LO signals;

a device for providing a plurality of replicated LO signals~~;~~, each replicated signal being ~~translated~~separated from each other by a predetermined frequency;

an optical splitter for receiving said relatively wide bandwidth optical signal and spatially separating said optical ~~signals~~signal into a plurality of replicated optical signals;

an optical channelizer for receiving said plurality of replicated signals from said device and said optical splitter; and

a photo detector disposed adjacent said optical channelizer for receiving ~~the images of~~ said replicated optical and LO signals.

Claim 8 (Original): The optical channelizer system as recited in claim 7, further including an optical amplifier for amplifying said optical signals.

Claim 9 (Original): The optical channelizer system as recited in claim 7, further including an optical amplifier and wherein said optical splitter and optical amplifier are formed from a monolithic optical splitter/amplifier integrated circuit (MOSAIC).

Claim 10 (Original): The optical channelizer as recited in claim 7, wherein said device for providing a plurality of replicated LO signals is a Bragg cell.

Claim 11 (Currently amended): An optical channelizer system for separating relatively wideband optical signals into a plurality of sub-channels comprising:

a plurality of optical sub-channelizers, each subchannelizer including means for spatially splitting one or the other of said optical signals or said LO signals;

means for replicating and frequency shifting the other of said optical signal or said LO signals;

an optical channelizer for receiving signals from said splitting means and said replicating means; and

a photo detector array for receiving ~~the images of~~ said signals from said optical channelizer.

Claim 12 (Original): The optical channelizer system as recited in claim 11, wherein said optical channelizer includes a diffraction grating.

Claim 13 (Original): The optical channelizer system as recited in claim 11, wherein said replicating means includes a Bragg cell.

Claim 14 (Original): The optical channelizer system as recited in claim 11, further including an optical amplifier.

Claim 15 (Original): The optical channelizer system as recited in claim 14, wherein said optical amplifier and said splitting means are formed from monolithic optical splitter/optical amplifier integrated circuit (MOSAIC).